# Planning library spaces to encourage collaboration

*By Martha C. Adamson, M.L.S., M.A.B.A., AHIP\**
madamson@ccccd.edu
*Assistant Vice President, Library Services*

*Brian P. Bunnett, M.L.S., M.A., AHIP†*
brian.bunnett@utsouthwestern.edu
*Associate Director*

*Library*
*The University of Texas Southwestern Medical Center at Dallas*
*5323 Harry Hines Boulevard*
*Dallas, Texas 75390-9049*

Most librarians can give examples from their own experience in which a library's physical space was either ill suited to the work to be performed or, in some unfortunate cases, a genuine barrier to productivity. In an effort to correct or avoid these situations, planners of library renovations or new construction make pre-design studies of individual workers' tasks and workflow at the work-unit level. In this article, the authors discuss how a pre-design review of library and institutional values influenced the course of a library renovation. The identification of collaboration as the major theme of the library and the institution's strategic directions drove renovation decisions and resulted in a facility that supports and promotes this concept.

## INTRODUCTION

Renovations of existing libraries and the construction of new ones have often been undertaken because the old facilities were too small to accommodate growing collections, large staffs, or increases in customer use. Such was the original impetus behind the renovation of the Galter Library at Northwestern University [1] and the construction of the new library at the University of California, San Francisco [2]. On other occasions, the old facilities, while perhaps still large enough, lacked the technological infrastructure to support fully networked computer environments. Ludwig, in his introductory comments to the 1994 survey of health sciences library building projects, pointed out the burdens technology places on libraries not designed for such thoroughgoing automation [3]. On still rarer occasions, the old libraries were designed to facilitate study, research, and work habits that are now unpopular or outmoded. Jenkins remarked that considerations of this sort entered into the decision to renovate the Health Sciences Library at the University of North Carolina [4]. One should not assume, based on

this evidence, that the old libraries were somehow flawed or poorly designed. As Ludwig is fond of quoting, the case is rather that, ''The buildings which house our libraries today are not bad buildings or inadequate buildings because those who built them were fools. They are bad buildings because what goes on inside of them now is different from what was planned to go on inside of them'' [5]. What was going on inside The University of Texas (UT) Southwestern Medical Center Library in the mid-1990s was quite a bit different from what was originally planned.

## BACKGROUND

Inspired by ideas from the Francis A. Countway Library of Medicine's 1992 invitational conference on ''Organizational Design for the Health Sciences Library of the Future,'' the UT Southwestern Library embarked on a journey to become a truly team-based, customer-centered organization. In the same time frame, the library was offered the opportunity to renovate its then-twenty-five-year-old facility.

As a result, defining renovation project goals became one of the first team-based, customer-centered activities the library staff pursued. Through staff and customer focus groups, facilities design meetings, site visits, and literature reviews, the library explored the interactions among library space, customers, and li-

\* Currently, director, Learning Resources Center, Collin County Community College District, Plano, Texas.
† Currently, interim director of libraries, UT Southwestern Medical Center at Dallas.

brary coworkers. The library's ''Strategic Plan'' and ''Organizational Values and Philosophies of Service'' and UT Southwestern's ''Mission Statement,'' ''University Philosophy,'' and ''Six Year Plan'' were mapped and mined for concepts and an overall theme. The theme that emerged was collaboration.

The theme of collaboration was expressed from various perspectives. For example, in the Library's ''Organizational Values and Philosophies of Service,'' it appears in four of ten shared values:

*Teamwork.* The Library's preferred style for accomplishing work is in teams. Significant staff development resources are invested in training covering teamsmanship skills.

*Collaboration.* The Library prizes activities in which staff can collaborate with each other and with customers.

*Innovation.* The Library is a dynamic organization, unafraid to reorganize itself as often as needed to meet the changing needs of its customers.

*Knowledge Sharing.* The Library values information-sharing among its multidisciplinary staff and with campus and professional colleagues.

In the ''University Philosophy,'' collaboration appears in statements such as:

Interdisciplinary efforts in education, research, and patient care are effective and cost-effective methods to achieve the ultimate aims of the institution. [6]

## PLANNING PROCESS

With the concept of collaboration as a focus, the library staff reviewed its current facilities, identifying weaknesses such as:

■ Staff areas and public areas were clearly demarcated through signage and ambience.
■ Customers could not find each other in the 63,000-square-foot facility and often requested paging over the public address system.
■ The library's four group study rooms were inadequate to meet customer demand, as more faculty adopted group-oriented class assignments.
■ Space allocations for customers assumed that customers studied quietly and alone in individual study rooms and single-person study carrels.
■ The service desk was designed under the assumption that customers interact with library staff during brief service transactions, conducted while both stand at a service counter.
■ Space allocations for staff areas were related to former hierarchical organizational structures and to jobs with defined, repetitive tasks that were often performed in relative isolation from coworkers.
■ The library's fifty-four staff members occupied a

warren of private offices and corridors laid out for thirty-eight full-time equivalents (FTEs).
■ Staff members' office assignments and space allocations were often related to past rather than current roles in the organization.
■ The extensive lead time required to arrange even minor modifications to the facility was a perceived barrier to organizational restructuring and an emerging team culture.
■ Collaborative meeting space for library and campus project teams was scarce.

In a series of all-staff discussions, a set of space-planning strategies was elaborated that addressed organizational aspirations, values, strengths, and perceived weaknesses. A Facilities Design Team (FDT), formed with five members from professional and classified staff ranks, was mandated to carry out the renovation in accordance with the space-planning strategies. The FDT's responsibilities included overall project oversight; communication with staff, customers, architects, and contractors; project budget management; and administrative decision making. In the post-renovation era, FDT will continue to monitor customer satisfaction with the facility, as well as its maintenance and evolution. FDT spawned several additional teams to address important, specific concerns identified by staff:

■ The Office Design Team developed plans and standards for individual work spaces and collaborative areas.
■ The Office Environment Team developed guidelines for neighborliness in open office space.
■ The Information Technology Team analyzed the impact of the renovation on staff and customer technology needs and prepared a plan to address those needs.
■ The Client Spaces Team developed plans for addressing changing customer needs in the library's public spaces.
■ The Information Desk Area Design Team developed plans for design and workflow at the library's unified service desk.

### Space-planning strategies promote collaboration among and with customers

The strategies that emerged from the library's discussions about its public spaces share a common goal of eliminating architectural and administrative barriers to collaboration. For example, all soft seating is grouped together within line of sight of the entrance, so that customers have an unambiguous location where they can plan to meet in the library.

To cite another example, all group study rooms are nearly identical in size, shape, and features, so that competition does not arise for specific rooms. To encourage spontaneous collaboration, group study

rooms are available on a walk-in rather than reservation basis, with no time limits imposed. While this strategy may not be practical in all academic library settings, on a busy academic medical center campus with only a small undergraduate presence, groups do not tend to occupy a study room for extended periods. They appreciate the freedom to work until their activity comes to a natural conclusion.

All group study rooms are equipped with tables, chairs, white boards, markers, erasers, bookshelves, wastebaskets, and either laptop power and network connections or dedicated, networked computers. Supplies are restocked and white boards cleaned daily. The computers offer the library's familiar unified interface to network services, many of which do not require further authentication. In other words, the group study rooms are in a state of readiness for collaboration to take place.

Two group study rooms do have special features. The library's audiovisual collection is housed in a group study room containing all the viewing equipment needed for individuals and small groups to use that collection. The library's collection of three-dimensional anatomical models is located in a second group study room equipped with large tables suitable for group study of these large items. By making it convenient for customers to use models near where they are housed, the library reduces the need to search for missing model parts throughout the entire building.

The library's unified service desk includes not only stand-up, counter-style work surfaces but also visitor seating and desk-height surfaces, where staff members and customers can sit side-by-side to use reference books or outline search strategies. When working with patients and laypeople with sensitive information needs, staff members have the option of moving to a nearby consultation room, which is equipped with a dedicated, networked computer, to continue the encounter.

The renovation plan takes advantage of natural traffic patterns and lines of sight to encourage interactions between staff and customers. Most of the library's computers designated for walk-in customer use are located within fifty feet of the unified service desk in an area referred to as the Computer Commons. With an unobstructed view of computer users, library staff can observe and respond to looks of puzzlement on the faces of customers. Because the service desk is a series of freestanding sections separated by walkways, staff members can move quickly to confused customers to offer assistance. The Computer Commons is located between the unified service desk and staff offices to encourage additional spontaneous interactions, as staff moves back and forth through the area.

### Space-planning principles promote collaboration among library staff

Because the library facility might not be renovated again for another twenty-five years, considerable thought was devoted to how the library's role and services might change. Already, library staff members are sought out by interdisciplinary teams for their abilities to locate and organize information and their databases and their Web-design skills. They find themselves meeting in laboratories and conference rooms across the campus and hosting interdisciplinary team meetings in the library. Networked file sharing allows collaboration on documents at the desktop. Web-based reference support software allows staff members to interact with customers online.

In the future, the library is likely to operate as a consulting team with collaborative relationships extending over significant periods of time, rather than as a transaction-based service provider. The service desk will shrink in importance in terms of customer interaction. Library staff members' desks will become the focus for delivery of information-consulting services. The library's paper and electronic resources will increasingly be used as the raw materials of an information-consulting enterprise.

In this scenario, the lines between the library's ''public'' and ''staff'' spaces become blurred. Signs reading ''Library Staff Only'' disappear in favor of signs indicating how to find individual staff members. Individual staff workspaces are planned to accommodate visitors. Fortunately, many of the strategies for promoting collaboration among library staff are likely to be the same as those for promoting collaboration between staff and campus colleagues in the future. Strategies that were adopted include the following.

**All staff members, including the director and associate director, are allocated personal work areas in open office areas that are similarly sized and equipped.** Interchangeable workspaces simplify reorganizations and reduce awareness of differences in rank and role among colleagues. Open office areas promote relaxed, informal interactions and the serendipitous exchange of valuable information.

**The size of individual work areas is minimized to free space for collaborative work.** By reducing the space allocated to individual staff members' work areas, collaborative spaces can be set aside. UT Southwestern Library created a variety of collaborative spaces:
■ Small rooms called ''privacy rooms'' suitable for one or two: These rooms are not scheduled and are assumed to be available for use if not occupied.
■ Large rooms for discussion and demonstrations seating six to thirty: These rooms may be scheduled but are assumed to be available if not occupied.
■ Open areas for active collaboration such as collating class packets or laying out conference posters: These spaces are not scheduled and are assumed to be available if not occupied.

■ Work area space: The library has established a stan-dard of eighty-eight to 100 square feet-per-staff-mem-ber work area, which has proved satisfactory during the first year of occupancy. The standard was based on:
- Local building codes prescribed a minimum eighty square feet per person.
- Studies conducted by Hall [7] indicated that Amer-icans are comfortable when they can maintain a four-to twelve-foot distance from others with whom they have a social but not intimate level of interaction.
- Practical considerations involved the shapes of some spaces.

**Individual work areas are defined by furniture or partitions for easy reconfiguration.** All individual staff work areas abut a wall on one side, and network, telephone, and power services are delivered from a channel mounted on this wall. Furniture providing storage, such as file cabinets or freestanding bookcas-es, separates individual staff spaces from one another. Staff may choose freestanding fabric-covered parti-tions for their tackability. Many staff spaces have been reconfigured since the area was first occupied after renovation, as staff members learn more about how they work and interact. Some staff members have cho-sen to merge their areas, because they collaborate often on projects.

**Moveable furniture is preferred; furniture that can be moved by library staff is most highly valued.** Ma-jor office furniture product lines now offer chairs, con-ference tables, filing cabinets, bookcases, computer ta-bles, and even desks on wheels. As a starting point for implementing this strategy, the library has invested in meeting room chairs, conference tables, and classroom computer workstations with wheels. Additional wheeled components are planned for later purchase. Collaborative spaces can be reconfigured spontane-ously by participants.

**The infrastructure supports spontaneous reconfigur-ing of spaces.** Infrastructure issues do not drive the positioning of chairs, desks, and computer stands. Continuous, suspended lighting fixtures provide even illumination throughout office areas through a com-bination of reflected and direct light. Network, tele-phone, and power lines are mounted in accessible, sur-face-mounted baseboard channels. Outlets are spaced an average of six feet apart and slide quickly to new positions in the channel.

**The need for quiet space for concentration and pri-vate discussion is met through privacy rooms.** Any organization contemplating the adoption of an open office strategy must address predictable and justified staff concerns about ambient noise and privacy. UT

Southwestern Library created small rooms to which supervisors and staff members retreat for performance appraisals and counseling. Staff members who need to make or receive personal telephone calls or who need to isolate themselves for deep concentration also use these rooms. In practice, privacy rooms are used less often than may have been predicted. The reality is that very few staff members are present in open office areas at any given time. In a library open 101 hours each week with a busy service desk and active team collaboration, adjacent work areas are seldom oc-cupied simultaneously. Consequently, ambient noise has not been an issue, and private phone calls are most often made from staff desks.

**Special attention and investment is devoted to as-suring that collaborative spaces support the activities occurring there.** A goal of the renovation was to re-duce the time at the beginning and end of meetings that is devoted to setting up and stowing supplies and equipment. Collaborative spaces are equipped with a selection of group process tools appropriate to room size. For example, in privacy rooms, a dedicated, net-worked computer is adequate for any group computer work occurring there. In a larger meeting room, the dedicated computer is supplemented by a dedicated computer projector and projection screen. Table 1 shows a checklist of group process tools supporting collaboration.

**Soundproofing remains an unresolved issue.** Modern construction techniques such as metal stud systems and suspended ceiling grids make soundproofing col-laborative spaces a challenge. Sound absorbing, tack-able wall coverings muffle the sounds of collaboration but do not prevent its escape through interconnected air handling vents and between walls and suspended ceilings. Doors in carpeted areas allow sound to pass, because they are hung well above the floor for clear-ance.

UT Southwestern has improved but not eliminated the transmission of sound from one area to another by retrofitting suspended ceilings with a double lay-er of ceiling tile; additional layers of insulation over privacy rooms, collaborative spaces, and group study rooms; or both ceiling tile and insulation. Air handling ducts have been retrofitted with collars of insulation where the ductwork makes a transition from one area to another. While these improvements have eliminated complaints, the library continues to look for ideas for further improvements. Yet to be explored are options for generating white noise, a concept discussed in Cohen's classic *Designing and Space Planning for Libraries* [8].

**Table 1**
Checklist of tools supporting collaboration

| Collaborative tool | Relative cost | Suitability for collaborative spaces | Type of expense |
|---|---|---|---|
| White board | Moderate | Small rooms, large rooms | One-time |
| Dry erase markers | Modest | Small rooms, large rooms | Ongoing |
| Dry erasers | Modest | Small rooms, large rooms | Ongoing |
| White board cleaning fluid | Modest | Small rooms, large rooms | Ongoing |
| Paper towels | Modest | Small rooms, large rooms | Ongoing |
| Tackable, sound-suppressing wall covering systems | High | Large rooms, open collaborative areas | One-time |
| Push pins | Modest | Rooms with bulletin boards, tackable wall coverings | Ongoing |
| Flip chart easels | Moderate | Large rooms | One-time |
| Flip chart tablets | Modest | Large rooms | Ongoing |
| Masking tape | Modest | Large rooms | Ongoing |
| Dedicated computer | High | Small rooms, large rooms | One-time |
| Computer projector | High | Large rooms | One-time |
| Projection screen | Moderate | Large rooms | One-time |
| Laptop network connection | Moderate | Small rooms, large rooms | One-time |
| Laptop power connection | Moderate | Small rooms, large rooms | One-time |
| Telephone | Moderate | Small rooms, large rooms, open collaborative areas | One-time |
| Adjustable or controllable lighting | High | Large rooms | One-time |
| Table top or wheeled podium | Moderate | Large rooms | One-time |
| Chairs on wheels | High | Small rooms, large rooms | One-time |
| Tables on wheels | High | Large rooms, open collaborative areas | One-time |

## RESULTS

Some strategies discussed above were tested even before the renovation was completed. Like many libraries with major investments in electronic full-text resources, UT Southwestern Library found use of its print collections on a downward trend. In response, some stacks maintenance staff were reassigned for training in growth areas of the library. The acquisitions unit moved into the space vacated by stacks maintenance, which better accommodated its recent growth trajectory. The reference and instructor teams merged. In each case, staff members took the opportunity to move their individual staff work areas closer to others with whom they collaborate at the present time. These realignments were accomplished without fanfare by the staff members themselves at times convenient to them.

Customers too have responded to the renovation in positive ways. Gate count is high. Group study rooms are being used as envisioned. The unified service desk with adjacent Computer Commons is a lively area of interaction between customers and library staff.

## CONCLUSIONS

Few libraries enjoy the luxury of completely remodeling their facilities to align with changing institutional values, philosophy, and strategies. However, all libraries can cultivate an awareness that library facilities are expressions of library and institutional goals and val-ues. The goal of promoting intralibrary and campus-wide collaboration can be advanced by major and minor day-to-day decisions that alter the character of the library facility and the behavior and expectations of its occupants.

## REFERENCES

1. SHEDLOCK J, ROSS F. A library for the twenty-first century: the Galter Health Sciences Library's renovation and expansion project. Bull Med Libr Assoc 1997 Apr;85(2):185.
2. COOPER RS. A library for the fifteenth through the twenty-first centuries. Bull Med Libr Assoc 1991 Apr;79(2):147.
3. LUDWIG L. Health sciences library building projects: 1994 survey. Bull Med Libr Assoc 1995 Apr;83(2):202.
4. LUDWIG L, SHEDLOCK J, WATSON L, DAHLEN K, JENKINS C. Designing a library: everyone on the same page? Bull Med Libr Assoc 2001 Apr;89(2):205.
5. RANDALL WM. Constitution of the modern library building. In: Fussler HH, ed. Library buildings for library service. Chicago, IL: University of Chicago Graduate Library School, 1947:183.
6. The University of Texas Southwestern Medical Center at Dallas, six year plan 1999–2005. Dallas, TX: UT Southwestern, 1999:12–3.
7. HALL ET. The hidden dimension. Garden City, NY: Doubleday, 1966:114–6.
8. COHEN A, COHEN E. Designing and space planning for libraries: a behavioral guide. New York, NY: Bowker, 1979:214–6.